

l72_waybel11

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Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $g1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_waybel_3 : \iota \Rightarrow o$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_yellow_0 : \iota \Rightarrow o$ be given. Let $v25_waybel_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
 & X0) \wedge ((v2_lattice3 X0) \wedge ((v24_waybel_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\
 & ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((\neg v1_xboole_0 \\
 & (k1_waybel_3 X0 X1)) \wedge (v1_waybel_0 (k1_waybel_3 X0 X1) X0))) \Rightarrow (\\
 & (v2_waybel_3 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
 & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\neg(\neg r3_orders_2 \\
 & X0 X1 X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(r1_waybel_3 \\
 & X0 X3 X1) \wedge (\neg r3_orders_2 X0 X3 X2))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\
 & X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\
 & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r3_orders_2 X0 X1 X2) \Leftrightarrow (r1_orders_2 \\
 & X0 X1 X2))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_lattice3 X0) \wedge \\
& (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((v3_orders_2 X1) \wedge ((v4_orders_2 \\
& X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge ((v2_lattice3 X1) \wedge \\
& ((v3_lattice3 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow ((g1_orders_2 (u1_struct_0 \\
& X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) (u1_orders_2 \\
& X1)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_waybel_3 X0 X2 X3) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 X1)) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (r1_waybel_3 X1 X4 X5))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (((X2 = X4) \wedge ((X3 = \\
& X5) \wedge ((g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 \\
& (u1_struct_0 X1) (u1_orders_2 X1)) \wedge (r1_orders_2 X0 X2 X3)))) \Rightarrow \\
& (r1_orders_2 X1 X4 X5))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0))) \Rightarrow (\forall X2. \forall X3.(g1_orders_2 X0 X1 = g1_orders_2 \\
& X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge \\
& ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge (l1_orders_2 X0)))) \wedge (\\
& m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (v1_waybel_0 (k1_waybel_3 \\
& X0 X1) X0)
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\
& ((v5_orders_2 X0) \wedge ((v1_yellow_0 X0) \wedge (l1_orders_2 X0)))) \wedge (\\
& m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (\neg v1_xboole_0 (k1_waybel_3 \\
& X0 X1))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow (m1_subset_1 (u1_orders_2 X0) (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow ((v3_waybel_3 X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow ((\neg v1_xboole_0 (k1_waybel_3 X0 X1)) \wedge (v1_waybel_0 (k1_waybel_3 \\ X0 X1) X0))) \wedge ((v24_waybel_0 X0) \wedge (v2_waybel_3 X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (((v3_orders_2 X0) \wedge ((v4_orders_2 \\ X0) \wedge ((v5_orders_2 X0) \wedge ((v1_yellow_0 X0) \wedge ((v1_lattice3 X0) \wedge \\ ((v24_waybel_0 X0) \wedge (v2_waybel_3 X0))))))) \Rightarrow ((v3_orders_2 X0) \wedge \\ ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_yellow_0 X0) \wedge ((v1_lattice3 \\ X0) \wedge (v3_waybel_3 X0))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ X0) \wedge (v25_waybel_0 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\ (v1_yellow_0 X0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ X0) \wedge (v3_lattice3 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\ ((v24_waybel_0 X0) \wedge (v25_waybel_0 X0)))))) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0.(((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_lattice3 X0) \wedge \\ (l1_orders_2 X0))))))) \Rightarrow (\forall X1.(((v3_orders_2 X1) \wedge ((v4_orders_2 \\ X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge ((v2_lattice3 X1) \wedge \\ (v3_lattice3 X1) \wedge (l1_orders_2 X1))))))) \Rightarrow (((g1_orders_2 (u1_struct_0 \\ X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) (u1_orders_2 \\ X1)) \wedge (v3_waybel_3 X0)) \Rightarrow (v3_waybel_3 X1))) \end{aligned}$$